Ecology, 75(5), 1994, 1516–1517
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ECOLOGICAL ECONOMICS

Costanza, Robert (ed.). 1991. **Ecological economics: the science and management of sustainability.** Columbia University Press, New York. xiii + 525 p. $24.00, ISBN: 0-231-07563-4 (acid-free paper).

Ecological economics is a compilation of 32 papers reporting a two-day workshop held to integrate the study of nature's household (ecology) and man's household (economics). The book benefits from the facilitated workshop by developing a comprehensive and cohesive structure while maintaining the diverse style of many prominent authors whose central themes are important for linking the two household disciplines. By bringing these themes together into one volume, the book provides an efficient conduit for accessing ecological economics by novice as well as veteran practioners and methodologists.

The book is meant as a textbook or "sourcebook" that can be used as a basis for graduate courses and as an academic text for economists, ecologists, conservation biologists, public policy professionals, anthropologists, sociologists, and others. While it addresses these intended audiences well, it should not be viewed by readers of *Ecology* as a short cut to economic literacy. For that understanding, a basic text that wraps economic theory around a theme of sustainability, such as that by D. W. Pearce and R. K. Turner (1990. *Economics of natural resources and the environment.* Johns Hopkins Press, Baltimore, Maryland) is recommended.

The introduction to *Ecological economics* provides a more concise and accurate summary than common for edited volumes. It represents movement toward consensus by a core of eminent economists, ecologists, and environmental philosophers regarding the state and goals of the emerging transdisciplinary field of ecological economics. A world view is introduced that traditional economic and ecological models and concepts cannot separately deal with global ecological problems.

The remainder of the book is divided into three cohesive parts. The first part focuses on defining ecological economics and how it differs from conventional approaches. Problems and recommendations regarding valuation, discounting, and uncertainty are included. Part II focuses on accounting, modeling, and analysis of ecological economic systems, including methods for incorporating natural capital in the national income accounts. Part III deals with institutional changes needed to achieve sustainable ecosystems, including some case studies.

The primary contribution of this book is the forum it provides for dialogue between the two household disciplines. Ecologists should recognize that, like them, economists study and defend a dynamic, evolving system. Economic poverty does not produce ecological purity. Economists should recognize that, like them, ecologists do not favor systems control. Ecosystems thrive best when left alone. Both disciplines resent artificial controls on the eco-world they study, and diversity is highly prized. Each is threatened by the avid calls for control of their world to meet the other discipline's narrow needs. The transdisciplinary challenge is to find how each discipline can maximize diversity and independence for its world without destroying the other.

Ecological economics is a good beginning toward meeting the transdisciplinary challenge, but too much should not be expected of the book or the fledgling transdiscipline. Dialogue alone cannot transform the basic differences that have long separated the two disciplines. Long-term ecological integrity and relatively short-term economic growth are intrinsically contradictory. Preserving ecological diversity constrains economic liberty. *Ecological economics* should be read not only as a call for melding disciplines to solve complex eco-problems, but also as an acceptance of differences and a forum to discuss them. In that way, the book can more honestly facilitate the societal dialogue about what kind of world is wanted.

Ironically, a secondary contribution of *Ecological economics* is found in what it emphatically does not do: it does not degenerate into a search for disciplinary scapegoats. The workshop leading to publication of *Ecological economics* followed the first annual meeting of the International Society for Ecological Economics (ISEE) held at the World Bank in May, 1990, in Washington, D.C. Participants from around the world attended. New ideas flourished, and neoclassical economic paradigm bashing proliferated. Between sessions, some participants watched the wrecking of a multi-story building across the street from the World Bank. As the wrecking crane destroyed the walls, observers were reminded of intemperate attacks on valuable economic paradigms, proven scientific constructs, and indispensable institutions.

Ecological economics largely resists the role of disciplinary demolition. While several papers begin with a critique of modern economics and dominant social constructs, these faults are correctly used as problem statements, providing the motivation for suggested changes. For example, Herman E. Daly's paper does not criticize the importance of "getting prices right" through correct applications of microeconomics to environmental problems. Instead, Daly calls for expanding macroeconomics to more correctly view the aggregate economy as an open subsystem embedded within an ecosystem. AnnMari Jansson's paper indicates in passing that command economies surrounding the Baltic Sea are less economically advantaged and more environmentally degraded than are more capitalistic economies in the same region. The primary message of Jansson's paper reaches beyond comparing economic systems to the larger question of how natural and artificial boundaries affect environmental quality and performance of systems of nature and humanity. The point is made that a sustainable design of a region is one with free flows of energy, money, and information between nations.

Similarly, Kenneth Boulding's paper indicates that command economies in general may lead to more serious eco-problems than do market economies because decision makers are isolated from information feedbacks so essential for learning: the *sine qua non* for evolutionary success in both ecological and economic systems. Boulding then broadens his

message by suggesting that our systems should have a "structure of legitimacy" and be based on "integrative power."

These extractions from the book are not meant to decrease urgent ecological awareness or exonerate market economies of environmental mischief. The temptingly simple remedy that we must intellectually overthrow the reigning neoclassical paradigm and begin completely anew is courageously shunned by *Ecological economics*. Instead, the book's introduction notes that ecological economics encompasses and transcends conventional disciplinary boundaries, using the tools of conventional economics and ecology as appropriate.

Readers of *Ecological economics* will greatly benefit from enhanced understanding of the potential connectedness of the two household disciplines. In that way, the disciplines will far better reflect the households they study. Thus enlightened, readers might follow the lead of the book toward pragmatic problem-solving based on integrative power and legitimacy.

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